

(b) assigning a mode of action for the antimicrobial compound based on the similarity or dissimilarity of values assigned to the hybridization complexes detected in (a) based on the relative amount of hybridization to a second set of hybridization values assigned to the hybridization complexes formed from the second nucleic acid sample.

Claims 2-10 (Cancelled).

Claim 11 (Original) The method of claim 1, wherein the antimicrobial compound is a member of the class of antimicrobial compounds that inhibit cell wall synthesis, interfere with the cell membrane, inhibit protein synthesis, inhibit topoisomerase activity, inhibit RNA synthesis, or is a competitive inhibitor.

Claims 12-26 (Cancelled).

Claim 27 (Original) The method of claim 1, wherein the plurality of sequences are obtained from *Bacillus subtilis*.

Claims 28-33 (Cancelled).

Claim 34 (Original) The method of claim 1, wherein the plurality of nucleic acid sequences is contained on a substrate.

Claim 35 (Cancelled).

Claim 36 (Original) The method of claim 1, further comprising:

(c) identifying from the plurality of nucleic acid sequences at least one sequence, or a homolog thereof, from the nucleic acid sample obtained from the bacterial cells cultivated in the presence of the antimicrobial compound that has a detected expression level that is significantly different from the nucleic acid sample obtained from bacterial cells cultivated in the absence of the antimicrobial compound.

Claims 37-41 (Cancelled).

Claim 42 (Original) The method of claim 36, further comprising:

(d) isolating a sequence identified in (c) or a homolog thereof.

Claim 43 (Original) The method of claim 42, wherein the sequence is a marker of the antimicrobial compound.

Claim 44 (Original) The method of claim 1, wherein the plurality of nucleic acid sequences is selected from the group of genes of Tables 4-21 or fragments thereof.

Claims 45 (Cancelled).

Claim 46 (Original) The method of claim 1, wherein the plurality of nucleic acid sequences includes *yerQ* or a fragment thereof.

Claims 47-49 (Cancelled).

Claim 50 (Original) The method of claim 1, wherein the plurality of nucleic acid sequences is obtained from *Staphylococcus aureus*.

Claim 51 (Original) The method of claim 50, wherein the plurality of nucleic acid sequences includes SA0681 or a fragment thereof, which is a marker gene for the mode of action of topoisomerase activity inhibition.

Claim 52 (Original) The method of claim 50, wherein the plurality of nucleic acid sequences includes SP1714 or a fragment thereof, which is a marker gene for the mode of action of topoisomerase activity inhibition.

Claim 53 (Original) The method of claim 1, wherein the plurality of nucleic acid sequences is obtained from *Streptococcus pneumoniae*.

Claim 54 (Original) The method of claim 53, wherein the plurality of nucleic acid sequences includes SP1045 or a fragment thereof, which is a marker gene for the mode of action of topoisomerase activity inhibition.

Claim 53 (Original) An isolated nucleic acid obtained by the method of claim 42, which is selected from the group consisting of the genes of Tables 4-23.

Claim 56 (Original) A substrate comprising the plurality of nucleic acid sequences selected from the group of genes of Tables 4-21 or fragments thereof.

Claims 57-68 (Cancelled).

Claim 69 (Original) A method for evaluating a compound for antimicrobial activity, comprising testing the compound for inhibition, interaction, or interference with the normal expression or activity of the corresponding bacterial gene of claim 42.

Claim 70 (Original) The method of claim 69, further comprising:

- (e) testing for essential activity of the expression of the bacterial gene in (d).

Claims 71-74 (Cancelled).

Claim 75 (Original) A method for screening for an antimicrobial compound having a mode of action of interest, comprising:

- (a) treating bacterial cells with a test compound, wherein the bacterial cells comprise a responsive promoter linked to a reporter gene; and

- (b) detecting the expression of the reporter gene;

wherein the responsive promoter is a promoter which is induced in a cell which is treated by an antimicrobial compound of a first class of antimicrobial compounds, but not by an antimicrobial compound of a second class of antimicrobial compounds, and

wherein the presence, absence or change in the amount of the expression of the reporter gene is indicative of the similarity or dissimilarity of the mode of actions of the test compound and an antimicrobial compound of the first class of the antimicrobial compounds.

Claims 76-78 (Cancelled)

Claim 79 (Original) A set of at least two bacterial reporter strains capable of distinguishing the modes of action among two or more classes of antimicrobial compounds, wherein the bacterial strains comprise a responsive promoter linked to a reporter gene; wherein each of the